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IN THE CLAIMS:

This listing of claims below will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-14. (Canceled)

15. (Currently Amended) A process for producing methanol from a synthesis gas comprising:

(a) supplying the synthesis gas mixture to the a methanol synthesis reactor system of any one of claims 1 to 12 comprising:

(i) a first reactor adapted to be maintained under methanol synthesis conditions having an inlet for supply of synthesis gas and an outlet for recovery of a first methanol-containing stream, said first reactor being charged with a first volume of a methanol synthesis catalyst through which the synthesis gas flows and on which in use, partial conversion of the synthesis gas to a product gas mixture comprising methanol and un-reacted synthesis gas will occur adiabatically, and

(ii) a second reactor adapted to be maintained under methanol synthesis conditions having an inlet for supply of the gaseous first methanol-containing stream which has not been subjected to cooling after being recovered from the outlet of the first reactor, an outlet for recovery of a second methanol-containing stream and indirect cooling means, said second reactor being charged with a second volume of a methanol synthesis catalyst through which the gaseous first methanol-containing stream flows outwardly from the inlet and on which, in use, further conversion of the synthesis gas to a product gas mixture comprising methanol will occur,

wherein, when said first and second reactors are zones in a single reactor, the first are separated from each other catalyst and the second catalyst do not have a common face.

wherein said system is maintained under methanol synthesis conditions;

(b) recovering from the methanol synthesis reactor system a product gas mixture comprising methanol and an un-reacted material of the synthesis gas mixture;

(c) supplying material of the product gas mixture to a methanol recovery zone maintained under methanol recovery conditions; and

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(d) recovering from the methanol recovery zone a crude methanol product stream and a vaporous stream comprising un-reacted material of the synthesis gas mixture.

2 16. (Original) A process according to Claim 15 additionally including the step of recycling the un-reacted material to the methanol synthesis reactor.

3 17. (Previously Presented) The process according to Claim 15 wherein the synthesis gas is formed from a hydrocarbon feedstock in a process comprising contacting a vaporous mixture comprising the feedstock and steam in the steam reforming zone with a catalyst effective for a catalysis of at least one reforming reaction and recovering from the reforming zone a synthesis gas mixture comprising carbon oxide, hydrogen and methane.

4 18. (Previously Presented) The process according to claim 15 wherein the synthesis gas is compressed before being supplied to the methanol synthesis reactor system.

5 19. (Previously Presented) The process according to claim 15 wherein the pressure of the gaseous reactants entering the first reactor zone are in the region of 20 bar to 200 bar.

6 20. (Previously Presented) The process according to claim 15 in which the motive force of gas compression is provided by high pressure steam generated within the plant by a steam turbine.

8 21. (Previously Presented) The process according to claim 15 in which the motive force for gas compression is wholly or in part provided by the cooling system in the secont reactor zone.

8 22. (Previously Presented) The process according to claim 15 wherein the temperature of the gaseous reactants entering the first reactor zone are in the region of 180°C to 220°C.